

Project Number:		Shop/Operation:
Project Title: Purchase Oil Analysis Equipment		
Current Practice and Baseline:		
<p>New Process: Facilities should test the quality of the oil before scheduled changeouts and only change the oil when tests indicate that it is needed. Facilities have two options to implementing this opportunity: purchase oil analysis equipment or pay an outside company to test the oil. Acquiring the services of an outside vendor is generally more economically beneficial than purchasing new equipment. However, because of the time delay in obtaining results (1 day to 7-14 days), it is our recommendation that managers investigate purchasing their own equipment.</p> <p>Oil analysis equipment tests the physical and/or chemical constituents of the oil to determine its quality level. There are two types of oil analysis equipment which can be purchased to test the oil. The first is a hand-held oil analyzer which provides limited information on the level of water and fuel contamination. The cost is approximately \$500 - \$1000. The second type of equipment is a PC-based program which uses a particle separator and viscometer to determine oil quality. The parameters that are typically evaluated in determining oil quality include viscosity, total base number (a measure of the oil's ability to neutralize acids), and the concentration of some metal ions (e.g., calcium, magnesium, phosphorus, sodium, and zinc) which are components of many additives. The cost for a PC-based system is \$8,000 - \$12,000. Regardless of which system is purchased, operator training is minimal.</p>		
<p>Benefits: Using an oil analysis program will save the facility thousands of dollars a year. Oil changes will most likely be reduced by 50% or more, decreasing the volume of oil and number of oil filters purchased each year. Oil waste, oil filter waste, and their related costs will also be reduced.</p>		
<p>Potential Mission Impacts/TM Requirements: Engine oil change intervals are specified in manuals. Use of the oil analysis equipment and the resultant delays in oil changes will require a waiver. Use of oil analysis equipment should be included in future maintenance directives governing oil change requirements.</p>		
P2 Goal: MSW		
Annual Cost Of Current Practice: Oil: Filters: Waste: TOTAL:	Capital Project Costs: Equipment: TOTAL:	Annual Project Costs: Oil: Filters: Waste: TOTAL:
Expected Annual Savings:		Payback:

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Vendor Information/Implementation Assistance:					
<p><u>Hand-Held Oil Analyzers:</u> Northern Technologies International Corp., 6680 N. Highway 49, Lino Lakes, MN 55015-1399, (612) 784-1250</p> <ul style="list-style-type: none"> • Lubri-Sensor Oil Quality Analyzer (Model NI-2B): \$525 (non-kit) • Lubri-Sensor Oil Quality Analyzer (Model NI-2B): \$619 (kit - includes case & sampler) <p><u>PC Based Oil Analyzers:</u> Computational Systems Inc. (CSI), 835 Innovation Dr., Knoxville, TN 37932, (423) 675-2110/2400</p> <ul style="list-style-type: none"> • OilView Portable Oil Analyzer (Model 5100): \$8,795 (single sensor grid)* • OilView Portable Oil Analyzer (Model 5100): \$10,795 (dual sensor grid) <p><u>Contract Services:</u> Quaker State Corp., 255 Elm Street, Oil City, PA 16301, (814) 676-7676</p>					
Total Score:	Goals:	Env Impact:	Compliance:	Tech Feas:	Cost:
Recommended Action Plan:					
Activity				OPR	Completion Date
1. Contact vendors for equipment information.					
2. Enter procurement request & apply for/obtain TM waiver.					
3. Install equipment.					
4. Train staff on use of equipment.					
5. Monitor results.					